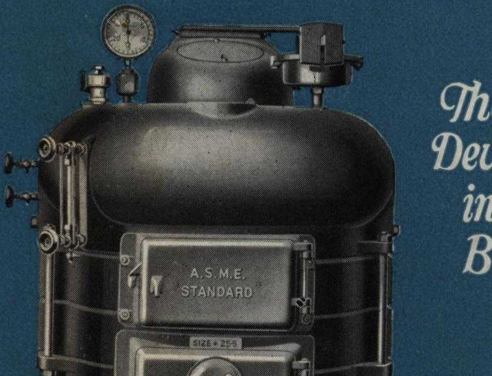
The New

Capitol Boiler



The latest Development in Round Boilers

UNITED STATES RADIATOR CORPORATION
DETROIT, MICHIGAN

GUARANTEED HEATING

THE United States Radiator Corporation will give with each Capitol Boiler sold an absolute guarantee in writing that it will properly heat its full published amount of direct cast iron radiation provided only that the boiler is connected to a correctly installed system and that the recognized standard requirements are followed. Should any Capitol Boiler not meet these conditions, the additional capacity necessary will be supplied without charge by the

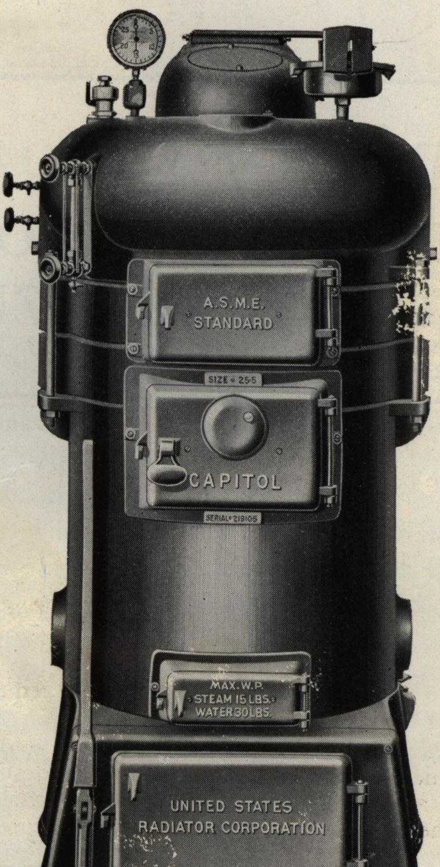
United States Radiator Corporation

◆

The
NEW CAPITOL ROUND BOILERS

UNITED STATES RADIATOR CORPORATION
DETROIT, MICHIGAN
SIX MANUFACTURING PLANTS AND THIRTY-TWO ASSEMBLING PLANTS SERVE THE COUNTRY

For 37 years, builders of dependable heating equipment



No. 25-5 Capitol Steam Boiler

The NEW CAPITOL ROUND BOILERS

AFTER thirty-seven years of experience in the design and manufacture of boilers, the United States Radiator Corporation offer their latest achievement—The Capitol Round Boiler—in which are incorporated numerous distinctive features of merit,—the result of many years of testing and observation.

Contributing factors to the remarkable ease of operation and efficiency of performance are the spacious ash-pit, the large tight-fitting doors, the smooth surface of the deep firepot, the sturdy grates, the skillful provisions to insure positive circulation, the synchronous regulation, the staggered fire-travel and the ideal proportion of grate area to heating surface.

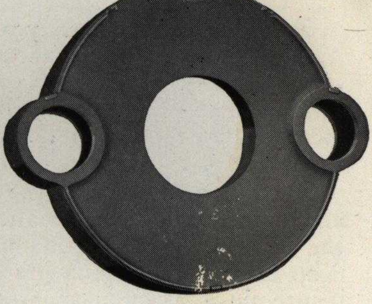
The base provides ample capacity for ashes, thus reducing to a minimum the danger of burning out grates. The large base door allows the ashes to be removed very readily.

The firepot is unusually deep, providing ample combustion space above the surface of the fuel bed. The walls of the firepot are smooth and slightly tapered to insure a clean heat absorbing surface. A clinker door of sufficient size is provided at the base of the firepot for the removal of clinkers and cleaning of the fire. The feed door is exceptionally large. No special shovel is required to fire a Capitol Round Boiler.

An ingenious secondary air vent is located in the fire door, which can be made air-tight when desired. Auxiliary air admitted through this vent is passed down between the door and the hot baffle plate, preheated and distributed evenly over the entire surface of the fire. This supply of hot oxygen mixes thoroughly with the volatile gases given off from the fuel, aiding materially in smokeless combustion when burning bituminous fuel and resulting in complete combustion when burning anthracite coal.

Ample facilities for cleaning are provided by the large cleanout doors which give access to the horizontal flues between sections. Vertical flues can be cleaned through a cleanout door in the smokehood.

The draft door is located at the rear of the base where



Center Hole Section

the connection chain does not interfere with the opening of the doors on the front of the boiler. This door is of ample size to insure a sufficient supply of air to the entire underside of the grates.

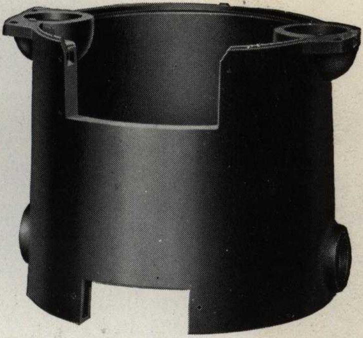
One of the factors accounting for the higher efficiency of the Capitol is the staggered flue, which insures a long fire-travel before the hot gases leave the boiler. The flue areas are correctly proportioned to extract the maximum of heat from the products of combustion with a minimum of chimney requirements.

Positive circulation within a boiler is of paramount importance. This matter was given careful consideration in the design of the Capitol Round Boiler. Extra large cast iron push nipples, accurately machined and gauged are used between sections. To insure rapid circulation, baffles are cast integral with the sections.

An essential feature of a steam boiler is that dry steam be delivered to the radiators. The ideal location of a cross waterway in the steam dome not only insures the extraction of additional heat from the gases leaving the boiler but also acts as a direct feed to the outlet from the back of the steam dome where the steam is exceptionally dry. The position of the steam outlet is an additional safeguard to the delivery of dry steam to the radiators.

Outer Hole Section

In the water dome a cross water-way is also incorporated and the outlets are located directly over the nipple ports, thus



Fire Pot

contributing to the delivery of hot water with a minimum of resistance.

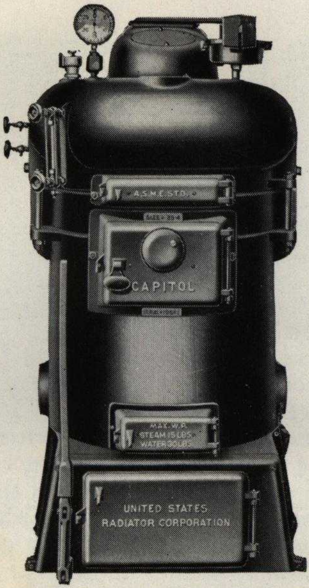
The draft regulation on all Capitol Round Boilers is accomplished without the use of objectionable pulleys. The regulator rod is directly connected to the check door in the smokehood and the draft door in the base. These doors are suspended on pivot point set-screws, thus reducing friction of movement to a minimum. The slightest increase or decrease in pressure on the regulator supplied with all steam boilers, actuates the draft mechanism. A practical hand regulator is furnished on all water boilers, thus insuring the control of heat generation at all times.

The flat grates are of sturdy, trussed construction. Their operation is accomplished without back-bending. A positive setting of the shaker catch allows the fire to be gently agitated or completely dumped as desired. The Capitol grates are designed to accommodate wood, coke, anthracite or bituminous coal.

Base Showing Flat Rocking Grates

The story of the economy, dependability and ease of operation of the Capitol Round Boiler could be continued but every advantage is summed up convincingly in the strongest guarantee of heating satisfaction in the Industry, "Guaranteed Heating."

CAPITOL ROUND BOILERS



STEAM BOILER LOADS AND DATA

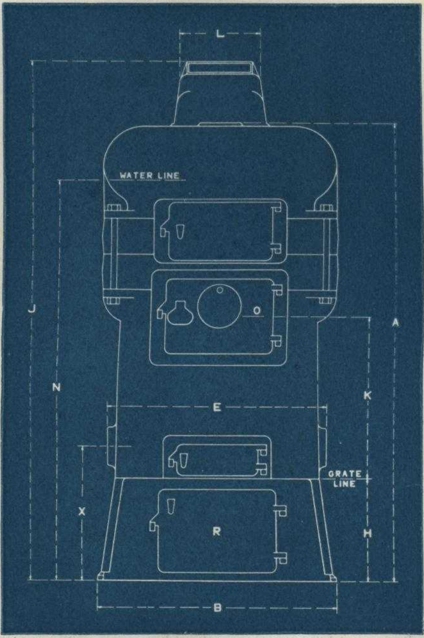
Boiler No.	Direct Cast Iron Radiator Loads *Sq. Ft.	Water Line Inches	Grate Area Sq. Ft.	Hard Coal Fuel Capacity Lbs.	Size of Outlet and Inlet **Inches	Minimum Chimney Height Feet	Minimum Flue Size Inches
18-4	300	46⅞	1.76	170	2½	30	8x12
18-5	325	$51\frac{11}{16}$	1.76	170	2½	35	8x12
20-4	400	46⅞	2.24	227	3	30	8x12
20-5	450	$51\frac{11}{16}$	2.24	227	3	35	8x12
20-6	475	56½	2.24	227	3	35	8x12
22-4	500	46⅞	2.76	297	3	35	8x12
22-5	550	$51\frac{11}{16}$	2.76	297	3	35	8x12
22-6	600	56½	2.76	297	3	40	8x12
25-4	625	47½	3.54	368	3½	35	8x12
25-5	675	$52\frac{5}{16}$	3.54	368	3½	40	8x12
25-6	725	57⅛	3.54	[illegible]	3½	40	8x12
28-4	775	48½	4.40	479	4	35	8x12
28-5	850	$53\frac{5}{16}$	4.40	479	4	40	12x12
28-6	925	58⅛	4.40	479	4	45	12x12

*See Guaranteed Heating. **Steam boilers have one outlet and two inlets.

Safety Valve sizes accord with A. S. M. E. boiler code.
Two 1½″ Tappings in steam dome for indirect heater and surface blowoff.
Two 2″ Coil openings, 9″ centers in firepot for direct heater.

EQUIPMENT

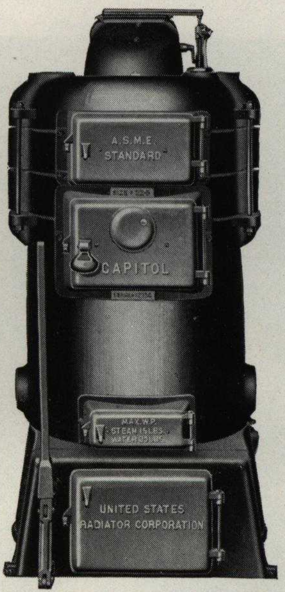
Trimmings—Regular trimmings include Saftety Valve, Steam Gauge and Regulator.
Firing Tools—Ash hoe, poker and flue scraper.



STEAM BOILER DIMENSIONS
Measurements in Inches

Boiler No.	A	B	E	H	J	K	L	N	O	R	X
18-4	54 9/16	26 1/32	23½	13	61⅝	21 9/16	8	46⅛	8⅞ x 10¼	10 x 14½	16 1/16
18-5	59 11/32	26 1/32	23½	13	66 13/32	21 9/16	8	51 11/16	8⅞ x 10¼	10 x 14½	16 1/16
20-4	54 9/16	28 9/32	25¾	13	62	21 9/16	9	46⅞	8⅞ x 10¼	10 x 14½	16 5/16
20-5	59 11/32	28 9/32	25¾	13	66 25/32	21 9/16	9	51 11/16	8⅞ x 10¼	10 x 14½	16 5/16
20-6	64⅛	28 9/32	25¾	13	71 9/16	21 9/16	9	56½	8⅞ x 10¼	10 x 14½	16 5/16
22-4	54 9/16	30 17/32	28	13	62	21 9/16	9	46⅞	9 x 13⅛	10 x 14½	16 5/16
22-5	59 11/32	30 17/32	28	13	66 25/32	21 9/16	9	51 11/16	9 x 13⅛	10 x 14½	16 5/16
22-6	64⅛	30 17/32	28	13	71 9/16	21 9/16	9	56½	9 x 13⅛	10 x 14½	16 5/16
25-4	56¼	33½	31	13	64 1/32	22 1/32	9	47½	9 x 13⅛	10 x 18	16¾
25-5	61 1/32	33½	31	13	68 13/16	22 1/32	9	52 5/16	9 x 13⅛	10 x 18	16¾
25-6	65 13/16	33½	31	13	73 19/32	22 1/32	9	57⅛	9 x 13⅛	10 x 18	16¾
28-4	57¼	36½	34	13	65 1/32	23 1/32	9	48½	9 x 13⅛	10 x 18	17
28-5	62 1/32	36½	34	13	69 13/16	23 1/32	9	53 5/16	9 x 13⅛	10 x 18	17
28-6	66 13/16	36½	34	13	74 19/32	23 1/32	9	58⅛	9 x 13⅛	10 x 18	17

CAPITOL ROUND BOILERS



WATER BOILER LOADS AND DATA

Boiler No.	Direct Cast Iron Radiator Loads *Sq. Ft.	Grate Area Sq. Ft.	Hard Coal Fuel Capacity Lbs.	Size of Outlet and Inlet **Inches	Minimum Chimney Height Feet	Minimum Flue Size Inches
18-4	495	1.76	170	2½	30	8 x 12
18-5	535	1.76	170	2½	35	8 x 12
20-4	660	2.24	227	3	30	8 x 12
20-5	745	2.24	227	3	35	8 x 12
20-6	785	2.24	227	3	35	8 x 12
22-4	825	2.76	297	3	35	8 x 12
22-5	910	2.76	297	3	35	8 x 12
22-6	990	2.76	297	3	40	8 x 12
25-4	1030	3.54	368	3½	35	8 x 12
25-5	1115	3.54	368	3½	40	8 x 12
25-6	1195	3.54	368	3½	40	8 x 12
28-4	1280	4.40	479	4	35	8 x 12
28-5	1405	4.40	479	4	40	12 x 12
28-6	1525	4.40	479	4	45	12 x 12

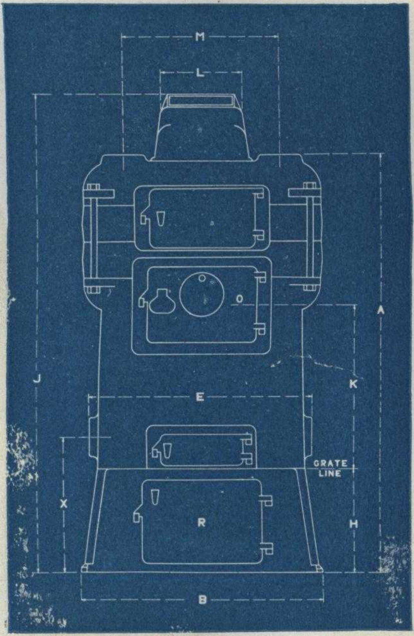
*See Guaranteed Heating.

**Water boilers have two outlets and two inlets.

Two 2″ Coil openings, 9″ centers in firepot for direct heater.

EQUIPMENT

Firing Tools—Ash hoe, poker and flue scraper.



WATER BOILER DIMENSIONS

Measurements in Inches

Boiler No.	A	B	E	H	J	K	L	M	O	R	X
18-4	48 3/16	26 1/32	23½	13	55¼	21 9/16	8	15⅝	8⅞ x 10¼	10 x 14½	16 1/16
18-5	52 31/32	26 1/32	23½	13	60 1/32	21 9/16	8	15⅝	8⅞ x 10¼	10 x 14½	16 1/16
20-4	48 3/16	28 9/32	25¾	13	55⅝	21 9/16	9	17⅞	8⅞ x 10¼	10 x 14½	16 5/16
20-5	52 31/32	28 9/32	25¾	13	60 13/32	21 9/16	9	17⅞	8⅞ x 10¼	10 x 14½	16 5/16
20-6	57¾	28 9/32	25¾	13	65 3/16	21 9/16	9	17⅞	8⅞ x 10¼	10 x 14½	16 5/16
22-4	48 3/16	30 17/32	28	13	55⅝	21 9/16	9	19⅝	9 x 13⅛	10 x 14½	16 5/16
22-5	52 31/32	30 17/32	28	13	60 13/32	21 9/16	9	19⅝	9 x 13⅛	10 x 14½	16 5/16
22-6	57¾	30 17/32	28	13	65 3/16	21 9/16	9	19⅝	9 x 13⅛	10 x 14½	16 5/16
25-4	49 5/32	33½	31	13	56 15/16	22 1/32	9	23	9 x 13⅛	10 x 18	16¾
25-5	53 15/16	33½	31	13	61 23/32	22 1/32	9	23	9 x 13⅛	10 x 18	16¾
25-6	58 23/32	33½	31	13	66½	22 1/32	9	23	9 x 13⅛	10 x 18	16¾
28-4	50 9/32	36½	34	13	58 1/16	23 1/32	9	24¼	9 x 13⅛	10 x 18	17
28-5	55 1/16	36½	34	13	62 27/32	23 1/32	9	24¼	9 x 13⅛	10 x 18	17
28-6	59 27/32	36½	34	13	67⅝	23 1/32	9	24¼	9 x 13⅛	10 x 18	17

United States Radiator Corporation

General Offices: Detroit, Michigan

BRANCH AND SALES OFFICES

*Boston	1001 Metropolitan Bldg.
*Portland, Me.	2 Martyr St.
*Springfield, Mass.	North Main St.
*Providence	Allen's Ave., Foot of Oxford St.
*Troy	Center St., Green Island, N. Y.
*New Haven	New St. and Railroad Ave.
New York	301 Architects Bldg.
*New Rochelle, N. Y.	Avenue E.
*Brooklyn	65 Forty-fifth St.
*Harrison, N. J.	Davis and Central Aves.
*Philadelphia	220 South 16th St.
*Baltimore	1147 Wicomico St.
Buffalo	303 Crosby Bldg.
*Rochester, N. Y.	64 Chester St.
Pittsburgh	1008 Union Bank Bldg.
*Cleveland	523 Guarantee Title Bldg.
*Columbus	174 West Naghton St.
*Cincinnati	1212 Exeter St.
Detroit	517 Dime Savings Bank Bldg.
*Chicago	500 North Dearborn St.
*Milwaukee	168 Corcoran Ave.
*Indianapolis	908 North Senate Ave.
*Louisville	1631 West High St.
*Birmingham, Ala.	1430 Second Ave., South
*Minnesota	688 Hampden Ave., St. Paul
*St. Louis	4004 Duncan Ave.
*Kansas City	1405 W. Eleventh St.
*Des Moines	400 Southwest Ninth St.
*Omaha	1017 North 21st St.
*Denver	2439 Blake St.
*Seattle	1248 First Ave., South
*Portland, Ore.	16th North and Thurman Sts.
*San Francisco	640 Second St.
*Los Angeles	2120 E. 25th St.

*Assembling Plants located at points indicated by star.

Manufacturing Plants located in the following cities: Corry, Pa.— Detroit, Mich.—Dunkirk, N. Y.—Edwardsville, Ill. —Geneva, N. Y.—West Newton, Pa.

Digitized by

INTERNATIONAL

ASSOCIATION
FOR
PRESERVATION
TECHNOLOGY,
INTERNATIONAL
www.apti.org

BUILDING
TECHNOLOGY
HERITAGE
LIBRARY

ttps://archive.org/details/buildingtechnologyheritagelibrary

From the collection of:

Alan O'Bright